

What is claimed is:

1. A method for determining whether an agent can be used to reduce the  
5 growth of cancer cells, comprising the steps of:  
a) obtaining a sample of cancer cells;  
b) determining whether said cancer cells express one or more genes  
selected from the group consisting of the sensitivity genes identified in Tables 8B, 10B,  
and 11B; and  
10 c) identifying that an agent can be used to reduce the growth of said  
cancer cells when one or more of said genes is expressed by said cancer cells.
2. A method for determining whether an agent cannot be used to reduce  
the growth of cancer cells, comprising the steps of:  
15 a) obtaining a sample of cancer cells;  
b) determining whether said cancer cells express one or more genes  
selected from the group consisting of the sensitivity genes identified in Tables 8B, 10B,  
and 11B; and  
20 c) identifying that an agent cannot be used to reduce the growth of said  
cancer cells when one or more of said genes is not expressed by said cancer cells.
3. A method for determining whether an agent cannot be used to reduce  
the growth of cancer cells, comprising the steps of:  
25 a) obtaining a sample of cancer cells;  
b) determining whether said cancer cells express one or more genes  
selected from the group consisting of the resistance genes identified in Tables 8A, 9A,  
9B, 9C, 9D, 10A, and 11A; and  
30 c) identifying that an agent cannot be used to reduce the growth of said  
cancer cells when one or more of said genes is expressed by said cancer cells.
4. The method of claim 1, wherein said level of expression is  
determined by detecting the amount of mRNA that is encoded by said one or more genes  
present in said sample.
- 35 5. The method of claim 2, wherein said level of expression is  
determined by detecting the amount of mRNA that is encoded by said one or more genes  
present in said sample.

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6. The method of claim 3, wherein said level of expression is determined by detecting the amount of mRNA that is encoded by said one or more genes present in said sample.

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7. The method of claim 1, wherein said level of expression is determined by detecting the amount of protein that is encoded by said one or more genes present in said sample.

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8. The method of claim 2, wherein said level of expression is determined by detecting the amount of protein present that is encoded by said one or more genes present in said sample.

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9. The method of claim 3, wherein said level of expression is determined by detecting the amount of protein present that is encoded by said one or more genes present in said sample.

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10. The method of claim 1, wherein said cancer cells are selected from the group consisting of cancer cell lines and cancer cells obtained from a patient.

11. The method of claim 2, wherein said cancer cells are selected from the group consisting of cancer cell lines and cancer cells obtained from a patient.

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Sub B10 12. The method of claim 3, wherein said cancer cells are selected from the group consisting of cancer cell lines and cancer cells obtained from a patient.

13. The method of claim 1, wherein said agent is a chemotherapeutic compound.

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14. The method of claim 2, wherein said agent is a chemotherapeutic compound

15. The method of claim 3, wherein said agent is a chemotherapeutic compound.

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16. A method for determining whether an agent can be used to reduce the growth of cancer cells, comprising the steps of:

- a) obtaining a sample of cancer cells;  
b) exposing the cancer cell to one or more test agents;  
c) determining the level of expression in the cancer cells of one or more genes selected from the group consisting of the sensitivity genes identified in Tables 8B, 10B, and 11B in the sample exposed to the agent and in a sample of cancer cells that is not exposed to the agent; and  
d) identifying that an agent can be used to reduce the growth of said cancer cells when the expression of one or more of said genes is increased in the presence of said agent.

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17. A method for determining whether an agent be used to reduce the growth of cancer cells, comprising the steps of:

- a) obtaining a sample of cancer cells;  
b) exposing the cancer cell to one or more test agents;  
c) determining the level of expression in the cancer cells of one or more genes selected from the group consisting of the sensitivity genes identified in Tables 8B, 10B, and 11B in the sample exposed to the agent and in a sample of cancer cells that is not exposed to the agent; and  
d) identifying that an agent cannot be used to reduce the growth of said cancer cells when the expression of one or more of said genes is not increased in the presence of said agent.

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18. A method for determining whether an agent cannot be used to reduce the growth of cancer cells, comprising the steps of:

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- a) obtaining a sample of cancer cells;  
b) exposing the cancer cell to one or more test agents;  
c) determining the level of expression in the cancer cells of one or more genes selected from the group consisting of the resistance genes identified in Tables 8A, 9A, 9B, 9C, 9D, 10A, and 11A in the sample exposed to the agent and in a sample of cancer cells that is not exposed to the agent; and


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d) identifying that an agent cannot be used to reduce the growth of said cancer cells when the expression of one or more of said genes is increased in the presence of said agent.

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19. The method of claim 16, wherein said level of expression is determined by detecting the amount of mRNA that is encoded by said one or more genes present in said sample.

20. The method of claim 17, wherein said level of expression is determined by detecting the amount of mRNA that is encoded by said one or more genes present in said sample.

5  21. The method of claim 18, wherein said level of expression is determined by detecting the amount of mRNA that is encoded by said one or more genes present in said sample.


10 22. The method of claim 16, wherein said level of expression is determined by detecting the amount of protein that is encoded by said one or more genes present in said sample.

15 23. The method of claim 17, wherein said level of expression is determined by detecting the amount of protein present that is encoded by said one or more genes present in said sample.

20 24. The method of claim 18, wherein said level of expression is determined by detecting the amount of protein present that is encoded by said one or more genes present in said sample.

25 25. The method of claim 16, wherein said cancer cells are selected from the group consisting of cancer cell lines and cancer cells obtained from a patient.

26. The method of claim 17, wherein said cancer cells are selected from the group consisting of cancer cell lines and cancer cells obtained from a patient.

30  27. The method of claim 18, wherein said cancer cells are selected from the group consisting of cancer cell lines and cancer cells obtained from a patient.

28. The method of claim 16, wherein said agent is a chemotherapeutic compound.

35 29. The method of claim 17, wherein said agent is a chemotherapeutic compound.

30. The method of claim 18, wherein said agent is a chemotherapeutic compound.

31. A method for determining whether treatment with a chemotherapeutic compound should be continued in a cancer patient, comprising the steps of:

- a) obtaining two or more samples comprising cancer cells from a patient during the course of chemotherapeutic compound treatment;
- b) determining the level of expression in the cancer cells of one or more genes selected from the group consisting of the sensitivity genes identified in Tables 8B, 10B, and 11B in the two or more samples; and
- c) continuing treatment when the expression level of one or more of said genes does not decrease during the course of treatment.

32. A method for determining whether treatment with a chemotherapeutic compound should be continued in a cancer patient, comprising the steps of:

- a) obtaining two or more samples comprising cancer cells from a patient during the course of chemotherapeutic compound treatment;
- b) determining the level of expression in the cancer cells of one or more genes selected from the group consisting of the resistance genes identified in Tables 8A, 9A, 9B, 9C, 9D, 10A, and 11A in the two or more samples; and
- c) discontinuing treatment when the expression level of one or more of said genes increases during the course of treatment.

33. A method for determining whether treatment with a chemotherapeutic compound should be continued in a cancer patient, comprising the steps of:

- a) obtaining two or more samples comprising cancer cells from a patient during the course of chemotherapeutic compound treatment;
- b) determining the level of expression in the cancer cells of one or more genes selected from the group consisting of the resistance genes identified in Tables 8A, 9A, 9B, 9C, 9D, 10A, and 11A in the two or more samples; and
- c) continuing treatment when the expression level of one or more of said genes does not increase during the course of treatment.

34. The method of claim 31, wherein said level of expression is determined by detecting the amount of mRNA that is encoded by said one or more genes present in said sample.

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35. The method of claim 32, wherein said level of expression is determined by detecting the amount of mRNA that is encoded by said one or more genes present in said sample

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36. The method of claim 33, wherein said level of expression is determined by detecting the amount of mRNA that is encoded by said one or more genes present in said sample.

37. The method of claim 31, wherein said level of expression is determined by detecting the amount of protein that is encoded by said one or more genes present in said sample.

38. The method of claim 32, wherein said level of expression is determined by detecting the amount of protein present that is encoded by said one or more genes present in said sample.

39. The method of claim 33, wherein said level of expression is determined by detecting the amount of protein present that is encoded by said one or more genes present in said sample.

40. A method for reducing the growth rate of cancer cells in a patient, comprising the step of administering to a patient suffering from cancer an agent identified using the method of claim 1 as being able to reduce the rate of growth of said cancer cells.